AMENDMENTS TO THE CLAIMS

1-36. (Canceled)

37. (Previously presented) A metal cluster nanocompound of transition metals, comprising a metal core and at least one ligand, and physiologically tolerated salts, derivatives, isomers, hydrates, metabolites and prodrugs thereof,

wherein at least one of: the average size of the metal core of said metal cluster nanocompounds, the electronegativity of said metal cluster nanocompounds, and the stabilization energy ΔE^{stab} are being selected to enable said metal cluster nanocompounds to interact with the DNA under physiological conditions, for the prophylactic and/or therapeutic treatment of disorders of the human or animal body.

38. (Previously presented) The metal cluster nanocompound as claimed in claim 37, in which the interaction between said metal cluster nanocompound and the DNA takes place by way of physical and/or chemical bond(s) and/or interaction(s).

39. (Previously presented) The metal cluster nanocompound as claimed in claim 37, in which the stabilization energy ΔE^{stab} of the interaction(s) between said metal cluster nanocompound (MCN) and the DNA calculated as a potential difference between, on the one hand, the sum of the potential energies of the ligand-free metal core of said metal cluster nanocompound, E^{pot}_{MCN}, and the free DNA, E^{pot}_{DNA}, and, on the other hand, the potential energy of the resulting complex of the ligand-free metal core of the metal cluster nanocompound and DNA, $E^{pot}_{MCN\text{-}DNA}$:

$$\Delta E^{stab} = (E^{pot}_{MCN} + E^{pot}_{DNA}) - E^{pot}_{MCN\text{-}DNA}$$

is at least about -400 kJ/mol.

40. (Previously presented) The metal cluster nanocompound as claimed in claim 37, in which the average size of the metal core of said metal cluster nanocompounds is selected in a way so as to enable said nanocompounds to attach to the major grooves of the DNA molecules.

41. (Previously presented) The metal cluster nanocompound as claimed in claim 37, in which the metal cores of said metal cluster nanocompounds have an average size of from about 0.5 nm to about 2.5 nm.

42. (Previously presented) The metal cluster nanocompound as claimed in claim 37, in which the metal core of said metal cluster nanocompounds has at least 30 metal atoms and no more than 90 metal atoms.

43. (Previously presented) The metal cluster nanocompound as claimed in claim 37, in which the transition metals are selected from the group consisting of: platinum (Pt), gold (Au), rhodium (Rh), iridium (Ir), palladium (Pd), ruthenium (Ru), osmium (Os), silver (Ag), and mixtures thereof.

44. (Previously presented) The metal cluster nanocompound of claim 37, in which the metal core comprises between 50 to 70 metal atoms, said metal atoms are selected from the group consisting of:

platinum (Pt), gold (Au), ruthenium (Ru), and mixtures thereof;

in which the metal core, including the ligand(s), has an average size of from 1 to 5 nm; and

in which the metal core has an average size of from about 0.5 nm to about 2.5 nm.

45. (Previously presented) The metal cluster nanocompound as claimed in claim 37, which is soluble or at least dispersible in aqueous media under physiological conditions due to the selection of suitable ligands.

46. (Previously presented) The metal cluster nanocompound as claimed in claim 37, in which the ligand(s) may be organic radicals and/or halogens, selected from the group consisting of the group consisting of: triphenylphosphine, derivatives of triphenylphosphine, halogens, and mixtures thereof.

47. (Previously presented) A metal cluster nanocompound as claimed in claim 37 which has the general formula (I)

$$[M_n L_m]$$

(I)

where M is a transition metal atom selected from the group consisting of: platinum (Pt), gold (Au), rhodium (Rh), iridium (Ir), palladium (Pd), ruthenium (Ru), osmium (Os), silver (Ag) and mixtures thereof;

n is the number of transition metal atoms per metal cluster nanocompound, with n being at least 30 and no higher than 90;

L is a ligand and may denote identical or different ligands in the same molecule;

m is the number of ligands per molecule and is at least 10; and

physiologically tolerated salts, derivatives, isomers, hydrates, metabolites and/or prodrugs thereof suitable for the prophylactic and/or therapeutic treatment of disorders of the human or animal body.

48. (Previously presented) The metal cluster nanocompound as claimed in claim 47, in which M = Au and/or n = 55.

49. (Previously presented) The metal cluster nanocompound as claimed in claim 47, in which the ligand L is selected from the group consisting of triphenylphosphine, derivatives of triphenylphosphine, halogens; and mixtures thereof.

50. (Previously presented) A metal cluster nanocompound as claimed in claim 37 having the general formula (II)

$$[Au_{55} L'_{12} X_6]$$

(II)

Where L' denotes identical or different ligands in the same molecule and is selected from the group consisting of: a triphenylphosphine radical, derivatives of triphenylphosphine, $P(C_6H_5)_2(C_6H_4SO_3H)$, and $P(C_6H_5)_2$(meta-$C_6H_4SO_3H$);

X is a halogen atom and may denote identical or different halogen atoms in the same molecule;

physiologically tolerated salts, derivatives, isomers, hydrates, metabolites and/or prodrugs thereof; and

suitable for the prophylactic and/or therapeutic (curative) treatment of disorders of the human or animal body.

51. (Previously presented) The metal cluster nanocompound as claimed in claim 37, having a water solubility of at least 0.1 μmol/l.

52. (Previously presented) The metal cluster nanocompound as claimed in claim 37, formulated for the prophylactic and/or therapeutic treatment of a condition selected from the group consisting of: neoplastic or cancerous disorders of the human or animal body, primary tumors, metastasized tumors, precancerous diseases, colon cancer, colon carcinomas, breast cancers, mamma carcinomas, ovarian carcinomas, carcinomas of the uterus, lung cancer, stomach cancer, liver cancer, carcinomas of the pancreas, kidney cancer, bladder cancer, prostate cancer, testicular cancer, bone cancer, skin cancer, Kaposi sarcomas, brain tumors, myosarcomas, neuroblastomas, lymphomas and leukemias.

53. (Previously presented) The metal cluster nanocompound as claimed in claim 37 formulated for the prophylactic and/or therapeutic treatment of benign and malignant tumors.

54. (Previously presented) The metal cluster nanocompound as claimed in claim 37, which inhibits and/or stops cell growth and/or cell division of tumor and/or cancer cells and/or which induces destruction of tumor and/or cancer cell DNA.

55. (Previously presented) The metal cluster nanocompound as claimed in claim 37, formulated to be administered systemically and/or topically.

56. (Previously presented) A pharmaceutical composition or medicament, comprising at least one metal cluster nanocompound as defined in claim 37 and/or physiologically tolerated salts, derivatives, isomers, hydrates, metabolites and/or prodrugs thereof in therapeutically active amounts, together with a pharmaceutically tolerated carrier or excipient.

57. (Previously presented) The pharmaceutical composition or medicament as claimed in claim 56, comprising at least one further pharmaceutical active compound, a chemotherapeutic or a cytostatic agent, present either as a mixture or a batch or spatially separated from one another.

58. (Previously presented) The pharmaceutical composition or medicament as claimed in claim 56 for systemic and/or topical application.

59. (Previously presented) A process for the prevention and/or treatment of disorders of the human or animal body, comprising administering to said human or animal at least one metal cluster nanocompound as defined in claim 37 and/or physiologically tolerated salts, derivatives, isomers, hydrates, metabolites and/or

prodrugs thereof in therapeutically active amounts, together with a pharmaceutically tolerated, essentially nontoxic carrier or excipient.

60. (Previously presented) The process as claimed in claim 59, in which the metal cluster nanocompound and/or physiologically tolerated salts, derivatives, isomers, hydrates, metabolites and/or prodrugs thereof are administered in combination with at least one further pharmaceutical active compound, present either as a functional unit in the form of a blend a mixture or spatially separated from one another, in which the at least one further pharmaceutical active compound can be administered simultaneously or else sequentially with respect to the metal cluster nanocompounds and/or their physiologically tolerated salts, derivatives, isomers, hydrates, metabolites and/or prodrugs.

61. (Previously presented) A metal cluster nanocompound of the formula

$$[Au_{55}\ \{P(C_6H_5)_2(C_6H_4SO_3H)\}_{12}Cl_6]$$

and physiologically tolerated salts, derivatives, isomers, hydrates, metabolites and/or prodrugs thereof,

for the prophylactic and/or therapeutic treatment of disorders of the human or animal body.

62. (Previously presented) The metal cluster nanocompound as claimed in claim 61 of the formula

$$[Au_{55}\ \{P(C_6H_5)_2(meta\text{-}C_6H_4SO_3H)\}_{12}Cl_6]$$

and physiologically tolerated salts, derivatives, isomers, hydrates, metabolites and/or prodrugs thereof,

for the prophylactic and/or therapeutic treatment of disorders of the human or animal body.

63. (New) A metal cluster nanocompound of transition metals, comprising a metal core and at least one ligand, and physiologically tolerated salts, derivatives, isomers, hydrates, metabolites and prodrugs thereof, wherein the average size of said metal core of said metal cluster nanocompounds is no more than about 2.5 nm and at least about 0.75 nm so as to enable said metal cluster nanocompounds to interact with DNA of human or animal cells under physiological conditions for the prophylactic and/or therapeutic treatment of disorders of the human or animal body.